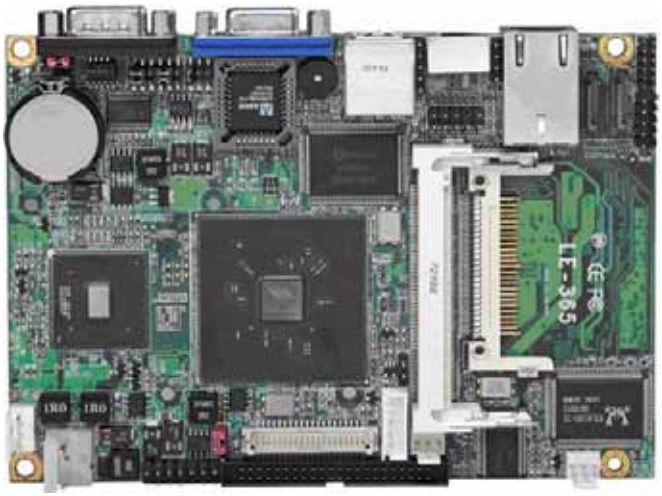
LE-365

3.5 inch Miniboard

User's Manual

Edition 1.1

2008/10/22



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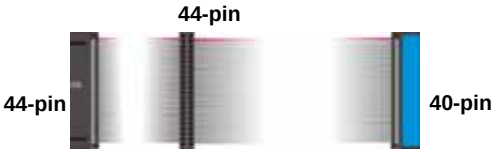
Packing List

Please check the package before you starting setup the system

Hardware:

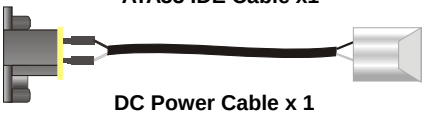
LE-365 miniboard x 1

Cable Kit:



ATA33 IDE Cable x1

1 to 3 power output cable

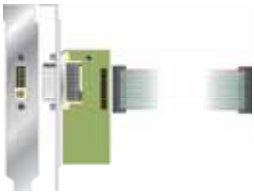


DC Power Cable x 1

SATA Power Cable x 1

PS/2 Keyboard & Mouse Cable x 1

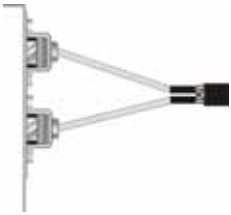
SATA Cable x 2



DVI module with bracket x1

(LE-365D Only)

Audio Port Cable x 1



USB Cable x 1

COM Port Cable x 1

Printed Matters:

Driver CD x 1（including User's Manual）

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Chapter 1 <Introduction>

1.1 <Product Overview>

LE-365 is the 3.5 inches embedded miniboard based on VIA CX700M platform, with onboard VIA Eden 1G processor, VGA, LAN, Audio, USB2.0, CF, LVDS. The board provides economic fanless solution for multimedia applications.

VIA CX700M Chipset

The board integrates VIA CX700M, to provide built-in UniChrome Pro 3D / 2D Graphics with MPEGII/MPEG4 decoder, and supports DDR400/533 memory up to 1G of capacity. The CX700M has Ultra V-Link Host interface with 1 GB/sec total bandwidth to enhance the system performance.

18/24-bit LVDS LCD interface

The board provides onboard 18/24-bit LVDS LCD interface, supports up to 1600 x 1200 of UXGA high resolution.

Flexible Extension Interface

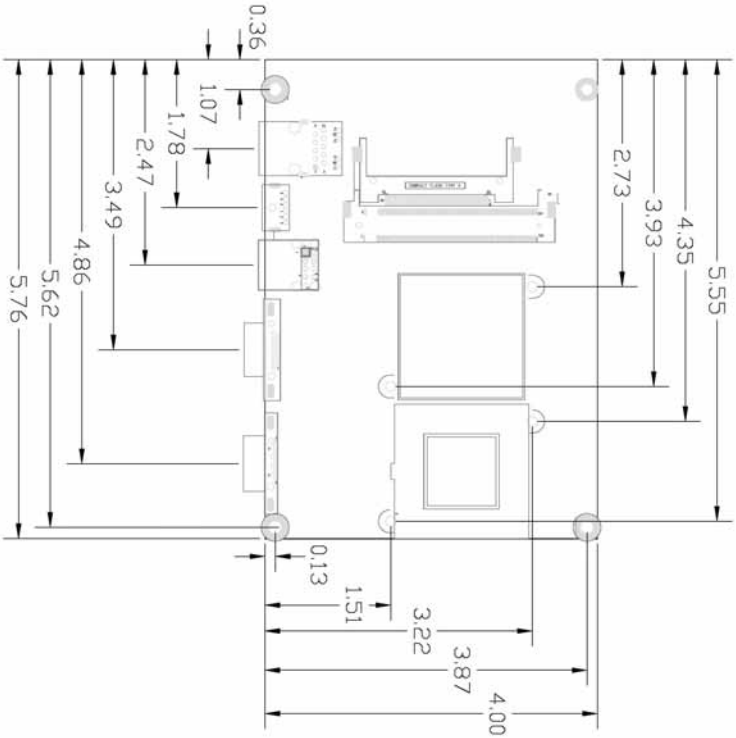
The board also provides Compact Flash Type II socket and two mini-PCI socket.

1.2 <Product Specification>

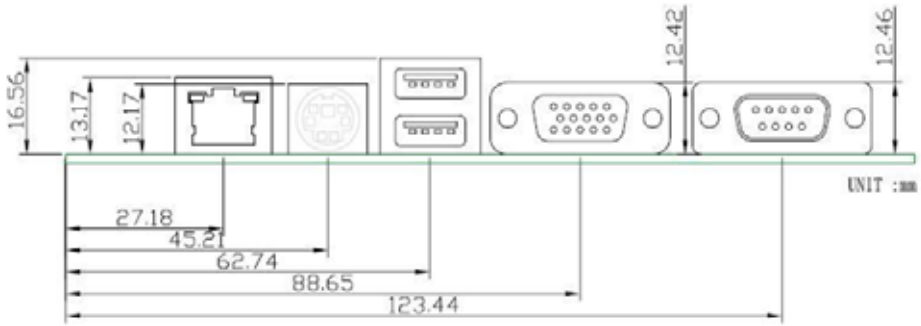
General Specification	
Form Factor	3.5 inches embedded miniboard
CPU	Embedded VIA V4 Eden 1G processor Front side bus: 400MHz Fanless with heatsink only
Memory	1 x 200-pin DDR2 400/533 SO-DIMM SDRAM up to 1GB Unbufferred, none-ECC memory supported only
Chipset	VIA CX700M
BIOS	Phoenix-Award v6.00PG 4Mb PnP flash BIOS
Green Function	Power saving mode includes doze, standby and suspend modes. ACPI version 1.0 and APM version 1.2 compliant
Watchdog Timer	System reset programmable watchdog timer with 1 ~ 255 sec./min. of timeout value
Real Time Clock	CX700M integrated RTC with lithium battery
Enhanced IDE	Enhanced UltraDMA133 IDE interface supports dual channels and up to 2 ATAPI devices One 44-pin IDE port onboard
Serial ATA	CX700M integrates 2 Serial ATA interfaces (No RAID Function) Up to 300MB/s of transfer rate
Multi-I/O Port	
Chipset	VIA CX700M with Winbond® W83697HG controller
Serial Port	One RS-232/422/485 serial port
USB Port	Two external & two internal Hi-Speed USB 2.0 ports with 480Mbps of transfer rate
IrDA Port	One IrDA compliant Infrared interface supports SIR
K/B & Mouse	PS/2 keyboard and mouse port
GPIO	One 12-pin Digital I/O connector with 8-bit programmable I/O interface
VGA Display Interface	
Chipset	VIA CX700M built-in S3 Graphics UniChrome Pro IGP graphics core
Core Frequency	200MHz
Memory	BIOS selectable 16/32/64/128MB shard with system memory
Display Type	CRT, LCD monitor with analog display
Connector	External DB15 female connector on rear I/O panel
LCD Interface	
Chipset	VIA CX700M transmitter
Interface	18/24-bit LVDS interface 12V backlight inverter connector

	Panel voltage 3.3V/5V jumper selectable
Ethernet Interface	
Chipset	Realtek RTL8110S-32 Gigabit Ethernet controller
Type	10/100/1000 Base-TX auto-switching Fast Ethernet Full duplex, IEEE802.3U compliant
Connector	External RJ45 connectors with LED on rear I/O panel
Audio Interface	
Chipset	VIA VT1708A
Interface	2 channel HD audio with Line-out and MIC-in
Connector	External Audio phone jack for Line-out Onboard audio connector with pin header Onboard CD-IN connector
Expansive Interface	
Mini-PCI	2 x 32-bit 5V/3.3V Mini-PCI socket
Solid State Disk	
DOM	IDE1 supports 44-pin DOM (DiskOnModule)
CompactFlash	1 x CompactFlash Type 2 socket
Power and Environment	
Power Requirement	DC 8V~24V input 1 x 2-pin DC_IN connector onboard
Dimension	146 (L) x 101 (H) mm
Temperature	Operating within 0 ~ 60°C (32 ~ 140°F) Storage within -20 ~ 85°C (-4 ~ 185°F)
Ordering Code	
LE-365D	Onboard VGA, 1x Gigabit LAN, 4 x USB2.0, 1 x CF, 2 x MinPCI, HD Audio, 1 x Irda, DVI and HDTV**(optional)**
LE-365X	Onboard VGA,1x Gigabit LAN, 4 x USB2.0, 1 x CF , 2 x MinPCI, HD Audio ,1 x Irda, LVDS and HDTV**(optional)**

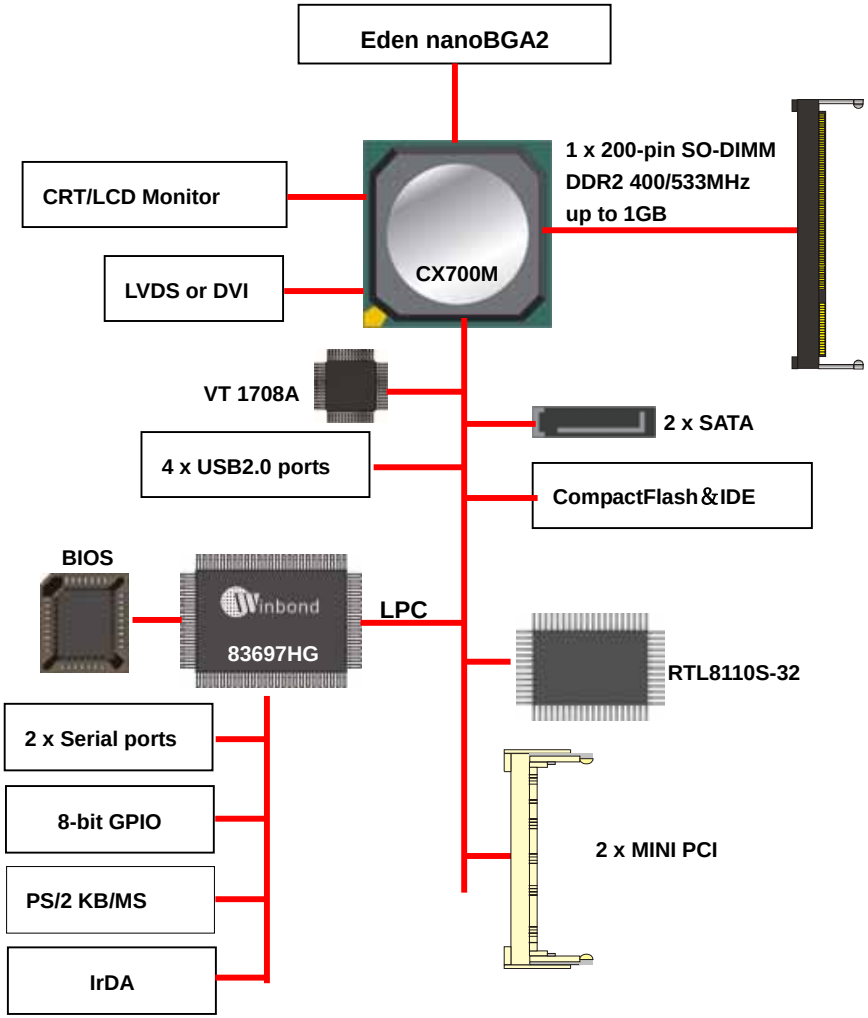
1.3 <Mechanical Drawing>



<IO Mechanical Drawing>



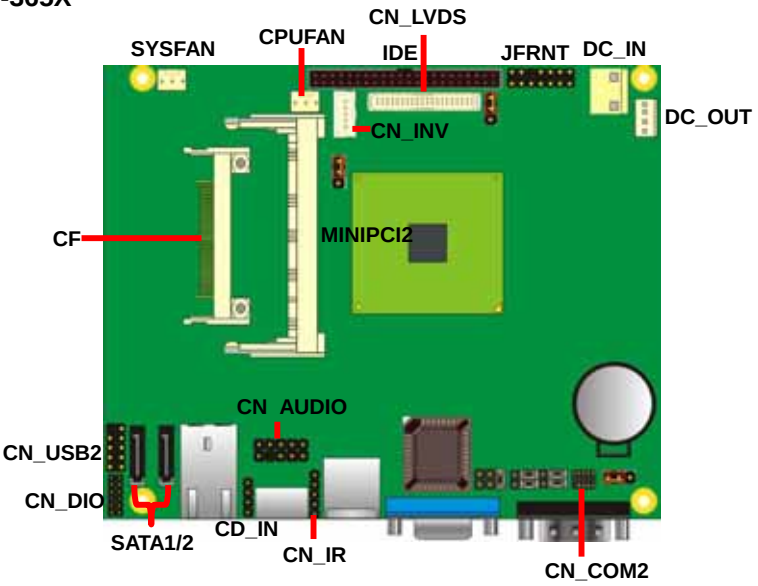
1.4 <Block Diagram>



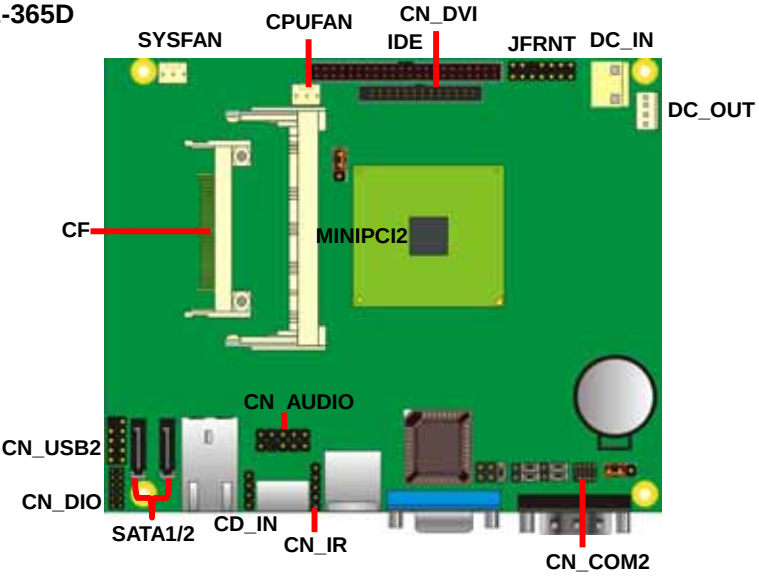
Chapter 2 <Hardware Setup>

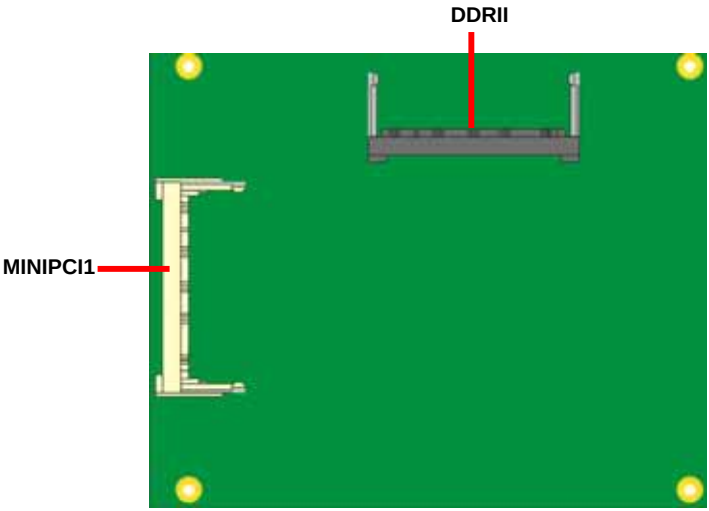
2.1 <Connector Location>

（1）LE-365X



（2）LE-365D

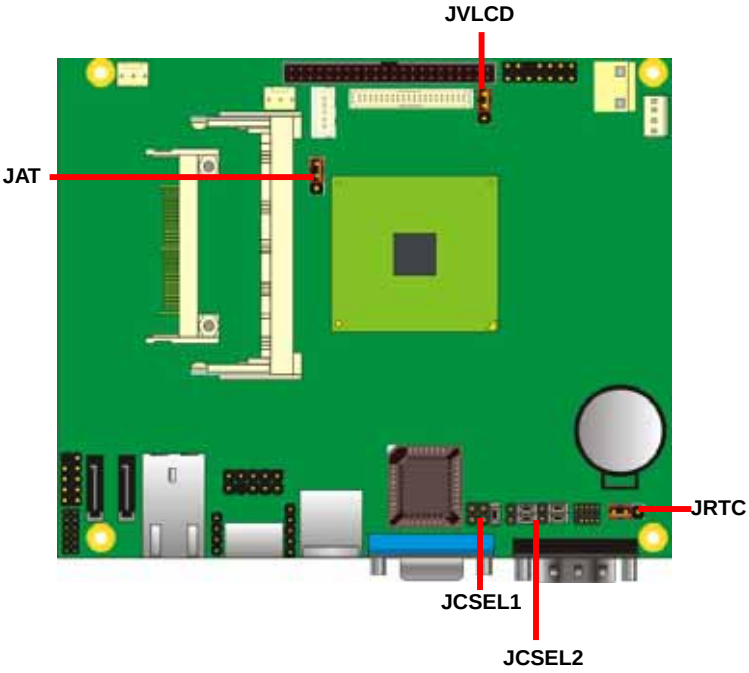



DDRII
MINIPCI1

RJ45
PS2
USB
CRT
COM1

2.2 <Jumper Reference>

Jumper	Function
JRTC	CMOS Operating/Clear Setting
JVLCD	LCD Panel Voltage Setting
JAT	AT Mode
JCSEL1/2	COM2 RS232/422/485 mode setting



2.3 <Connector Reference>

2.3.1 <Internal Connector>

Connector	Function	Remark
DDRII	200 -pin DDR2 SO-DIMM SDRAM slot	
SATA1/2	7-pin Serial ATA connector	
CN_AUDIO	5 x 2-pin audio connector	
CD_IN	4-pin CD-ROM audio input connector	
CN_DIO	6 x 2-pin digital I/O connector	
CN_USB2	5 x 2-pin USB connector	
CPUFAN	3-pin CPU cooler fan connector	
SYSFAN	3-pin system cooler fan connector	
CN_COM2	5 x 2-pin com connector	
CN_IR	5-pin IrDA connector	
CF	Compact Flash Type II socket	
CN_LVDS	20 x 2-pin LVDS connector	LE-365X
CN_INV	5-pin LCD inverter connector	LE-365X
DC_OUT	4-pin power output connector	
DC_IN	3-pin power input connector	
MINIPCI1/2	Mini-PCI socket	
CN_DVI	13 x 2-pin DVI interface	LE-365D
JFRNT	14-pin switch/indicator connector	

2.3.2 <External Connector>

Connector	Function	Remark
CRT	DB15 VGA connector	
USB	Dual USB 2.0 connector	
COM1	DB9 Serial port connector	
RJ45	One RJ45 LAN connector	
PS2	PS/2 keyboard and mouse connector	

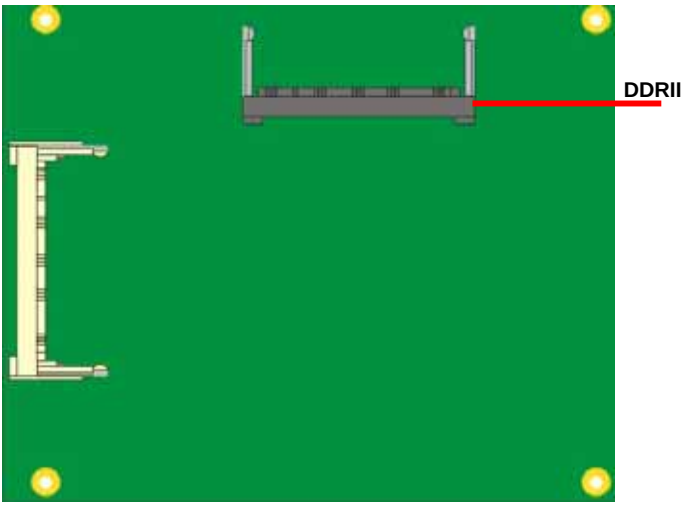
2.4 <CPU and Memory Setup>

2.4.1< CPU>

The board comes with the VIA V4 Eden 1GHz processor , it supports new generation of VIA V4 Eden 1GHz processor with 400MHz of front side bus and 2MB L2 cache. Please follow the instruction to install the CPU properly.

2.4.2 <Memory>

The board provides one 200-pin DDR2 SO-DIMM to support DDR2 400/533 memory modules up to 1GB of capacity. Non-ECC, unbuffered memory is supported only. While applying two same modules, dual channel technology is enabled automatically for higher performance.



2.5 <CMOS ATX Setup>

The board's data of CMOS can be setting in BIOS. If the board refuses to boot due to inappropriate CMOS settings, here is how to proceed to clear (reset) the CMOS to its default values.

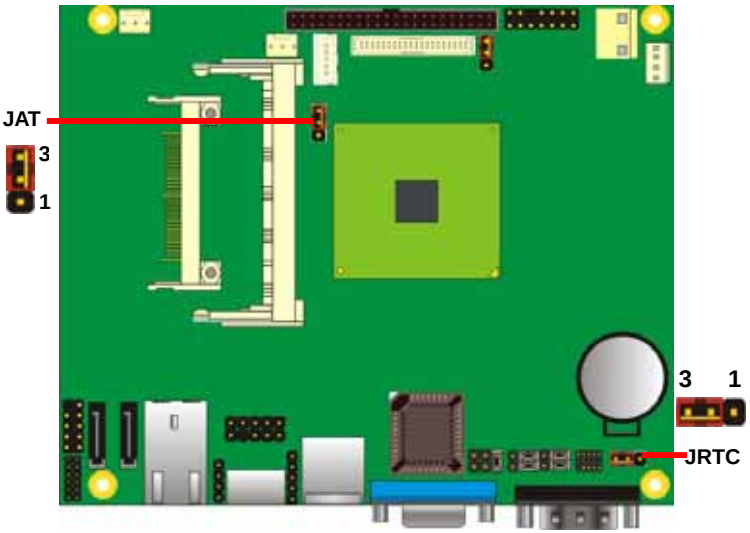
Jumper: **JRTC**

Type: Onboard 3-pin jumper

JRTC	Mode
1-2	Clear CMOS
2-3	Normal Operation
Default setting	2-3

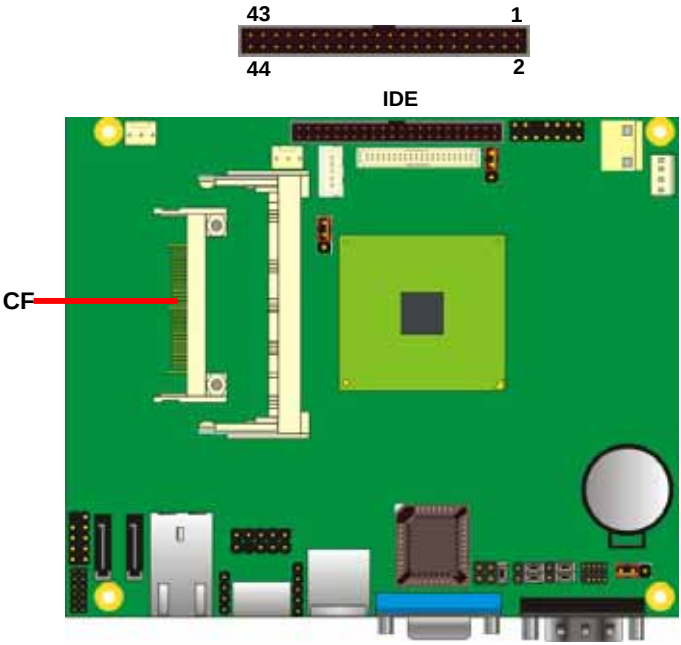
Jumper: **JAT**
Type: onboard 3-pin header

JAT	Mode
1-2	AT Mode
2-3	ATX Mode
Default setting	2-3



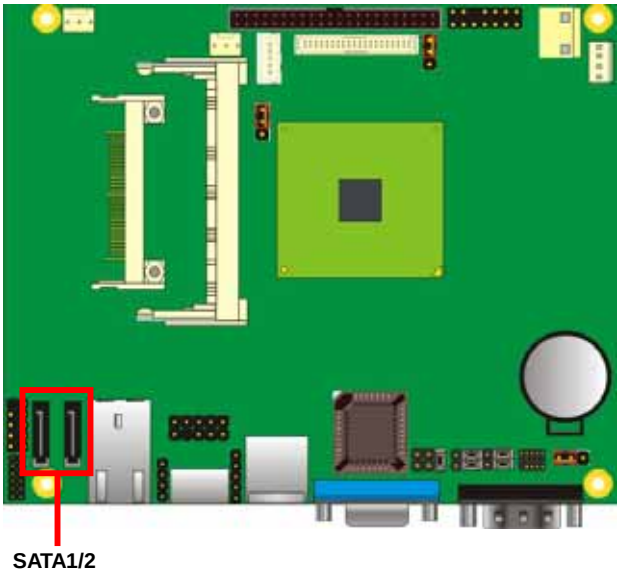
2.6 <Enhanced IDE & CF interface>

The board supports one UltraDMA133 IDE interface, and one CompactFlash Type II socket with secondary IDE mode, the 44-pin IDE connector can support up to 2 ATAPI devices through IDE cable, and the CompactFlash socket can support IDE DMA mode (depends on the CF card specification).



2.7 <Serial ATA Interface>

Based on VIA CX700M, the board provides two Serial ATA interfaces with up to 300MB/s of transfer rate.



2.8 <LAN Interface>

The Realtek RTL8110S-32 supports triple speed of 10/100/1000Base-T, with IEEE802.3 compliance and Wake-On-LAN supported.

2.9 <Onboard Display Interface>

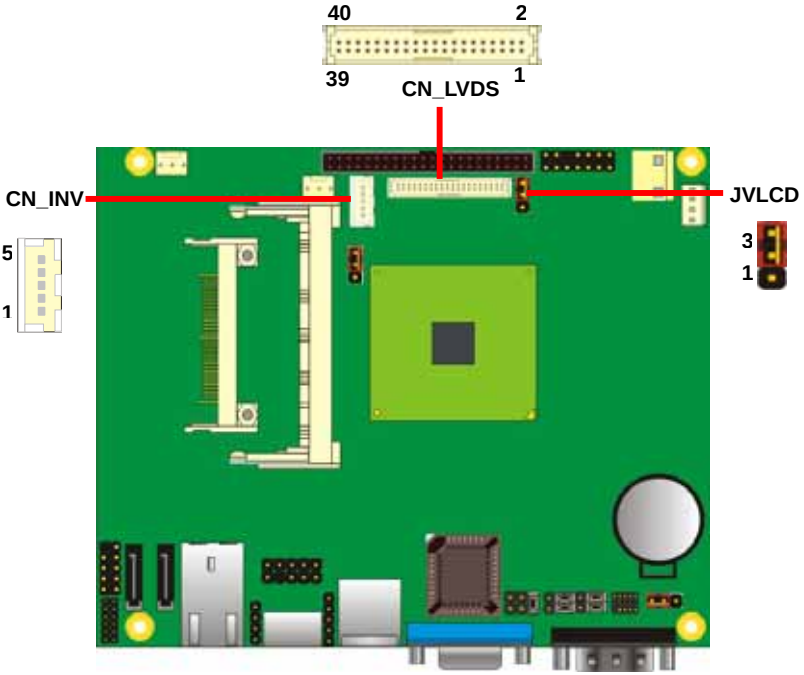
Based on VIA CX700M chipset with built-in GMA (Graphic Media Accelerator) 950 graphics, the board provides one DB15 connector on real external I/O port, and one 40-pin LVDS interface with 5-pin LCD backlight inverter connector. The board provides dual display function with clone mode and extended desktop mode for CRT and LCD or DVI .

2.9.1 <Analog VGA Interface>

Please connect your CRT or LCD monitor with DB15 male connector to the onboard DB15 female connector on rear I/O port.

2.9.2 <Digital Display>

The board provides one 40-pin LVDS connector for 18/24-bit dual channel panels, supports up to 1600 x 1200 (UXGA) of resolution, with one LCD backlight inverter connector and one jumper for panel voltage setting.（LE-365X Only）



Connector: **CN_INV**
Type: 5-pin LVDS Power Header
Connector model: **JST B5B-XH-A**

Pin	Description
1	+12V
2	GND
3	GND
4	GND
5	ENABKL

Connector: **JVLCD**
Type: 3-pin Power select Header

Pin	Description
1	VCC(5V)
2	LCDVCC
3	VCC(3.3V)

Connector: **CN_LVDS**
Type: onboard 40-pin connector for LVDS connector
Connector model: **HIROSE DF13-40DP-1.25V**

Pin	Signal	Pin	Signal
2	LCDVCC	1	LCDVCC
4	GND	3	GND
6	ATX0-	5	BTX0-
8	ATX0+	7	BTX0+
10	GND	9	GND
12	ATX1-	11	BTX1-
14	ATX1+	13	BTX1+
16	GND	15	GND
18	ATX2-	17	BTX2-
20	ATX2+	19	BTX2+
22	GND	21	GND
24	ACLK-	23	BTX3-
26	ACLK+	25	BTX3+
28	GND	27	GND
30	ATX3-	29	BCLK-
32	ATX3+	31	BCLK+
34	GND	33	GND
36	N/C	35	N/C
38	N/C	37	N/C
40	N/C	39	N/C

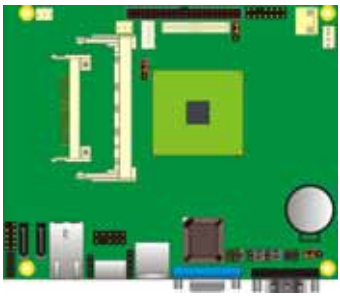
To setup the LCD, you need the component below:

1. A panel with LVDS interfaces.
2. An inverter for panel's backlight power.
3. A LCD cable and an inverter cable.

For the cables, please follow the pin assignment of the connector to make a cable, because every panel has its own pin assignment, so we do not provide a standard cable; please find a local cable manufacture to make cables.

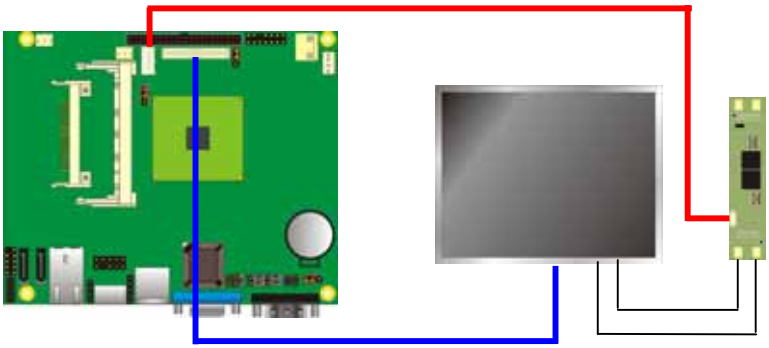
LCD Installation Guide:

1. Preparing the **LE-365X**, **LCD panel** and the **backlight inverter**.



2. Please check the datasheet of the panel to see the voltage of the panel, and set the jumper **JVLCD** to +5V or +3.3V.
3. You would need a LVDS type cable.

4. To connect all of the devices well.



After setup the devices well, you need to select the LCD panel type in the BIOS.

The panel type mapping is list below:

LE-365 BIOS panel type selection form			
NO.	**Resolution**	**Color**	**Channel**
0	640 x 480	18	1
1	800 x 600	18	1
2	1024 x 768	18	1
3	1280 x 768	18	1
4	1280 x 1024	18	2
5	1400 x 1050	18	2
6	1600 x 1200	18	2
7	1280 x 800	18	1
8	800 x 480	18	1
9	1024 x 768	18	2
A	1024 x 768	24	1
B	1024 x 768	24	2
C	1280 x 768	24	1
D	1280 x 1024	24	2
E	1400 x 1050	24	2
F	1600 x 1200	24	2

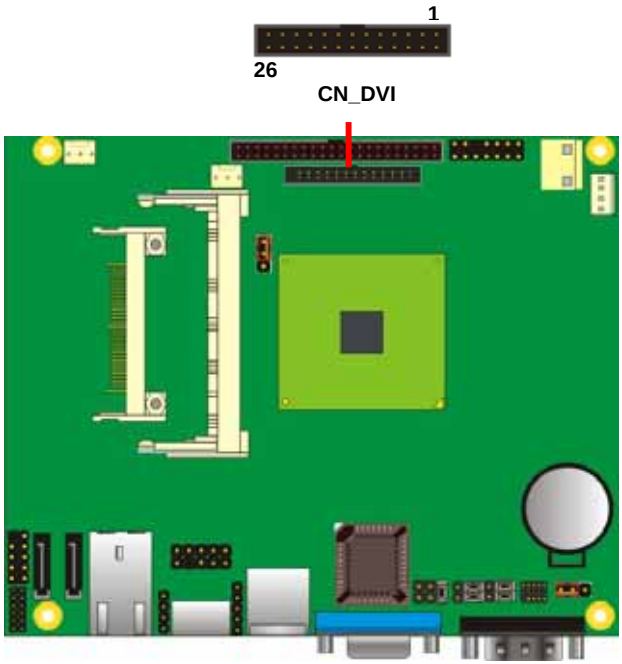
2.9.3 <DVI Interface >

The board also comes with a DVI interface with VIA CX700M for digital video interface.

Connector: **CN_DVI（LE-365D Only）**

Connector type: 26-pin header connector (pitch = 2.00mm)

Pin Number	Assignment	Pin Number	Assignment
1	TX1+	2	TX1-
3	Ground	4	Ground
5	TXC+	6	TXC-
7	Ground	8	PVDD
9	N/C	10	N/C
11	TX2+	12	TX2-
13	Ground	14	Ground
15	TX0+	16	TX0-
17	N/C	18	HPDET
19	DDC_DATA	20	DDCCLK
21	GND	22	N/C
23	N/C	24	N/C
25	N/C	26	N/C



2.10 <Onboard Audio Interface>

T The board provides the onboard HD audio interface with VIA VT1708A

Connector: CN_AUDIO

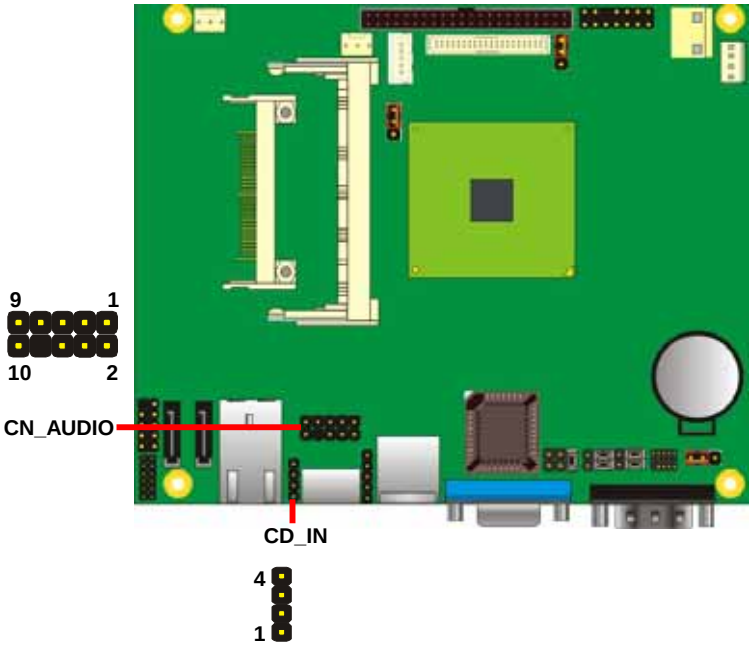
Type: 10-pin (2 x 5) header (pitch = 2.54mm)

Pin	Description	Pin	Description
1	MIC_L	2	Ground
3	MIC_R	4	ACZ_DET
5	Speaker_R	6	MIC Detect
7	SENSE	8	N/C
9	Speaker_L	10	Speaker Detect

Connector: **CD_IN**

Type: 4-pin header (pitch = 2.54mm)

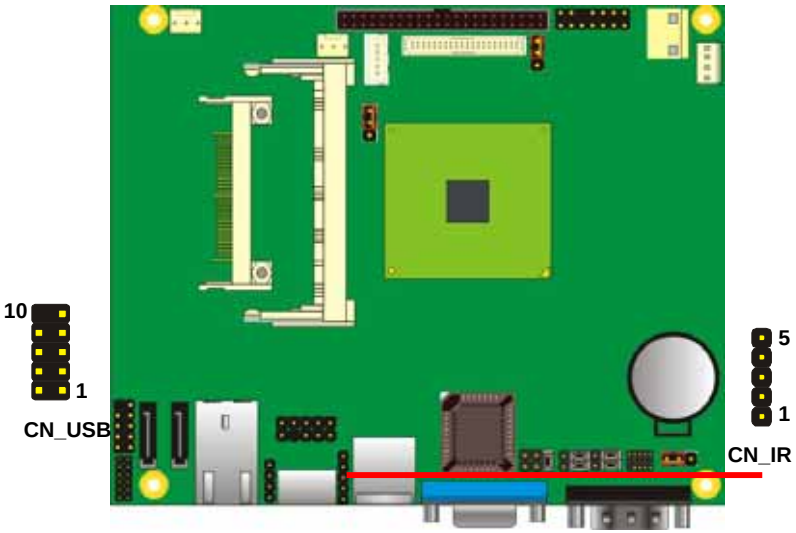
Pin	Description
1	CD – Left
2	Ground
3	Ground
4	CD – Right



2.11 <USB2.0 Interface>

Based on VIA CX700M，the board provides 4 USB2.0 ports. The USB2.0 interface provides up to 480Mbps of transferring rate.

Interface	USB2.0
Controller	CX700M
Transfer Rate	Up to 480Mb/s
Output Current	500mA



Connector: **CN_IR**

Type: 5-pin header for SIR Port

Pin	Description
1	Vcc
2	N/C
3	IRRX
4	Ground
5	IRTX

Connector: **CN_USB**

Type: 10-pin (5 x 2) header for USB Port

Pin	Description	Pin	Description
1	VCC	2	VCC
3	Data0-	4	Data1-
5	Data0+	6	Data1+
7	Ground	8	Ground
9	Ground	10	N/C

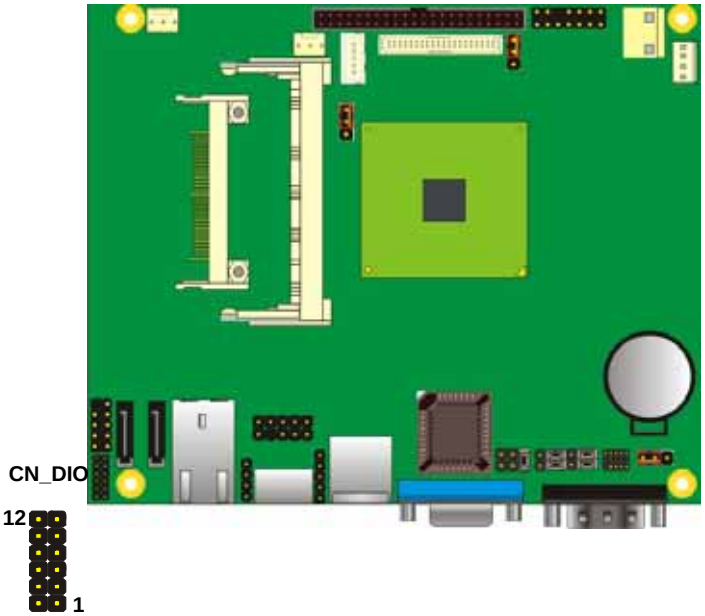
PS: The USB2.0 will be only active when you connecting with the USB2.0 devices, if you insert an USB1.1 device, the port will be changed to USB1.1 protocol automatically. The transferring rate of USB2.0 as 480Mbps is depending on device capacity, exact transferring rate may not be up to 480Mbps.

2.12 <GPIO Interface>

The board provides a programmable 8-bit digital I/O interface; you can use this general purpose I/O port for system control like POS or KIOSK.

Connector: **CN_DIO**
Type: onboard 2 x 6-pin header, pitch=2.0mm

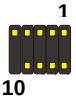
Pin	Description	Pin	Description
1	Ground	2	Ground
3	GP0	4	GP4
5	GP1	6	GP5
7	GP2	8	GP6
9	GP3	10	GP7
11	VCC	12	+12V



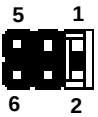
2.13 <Serial Port Jumper Setting >

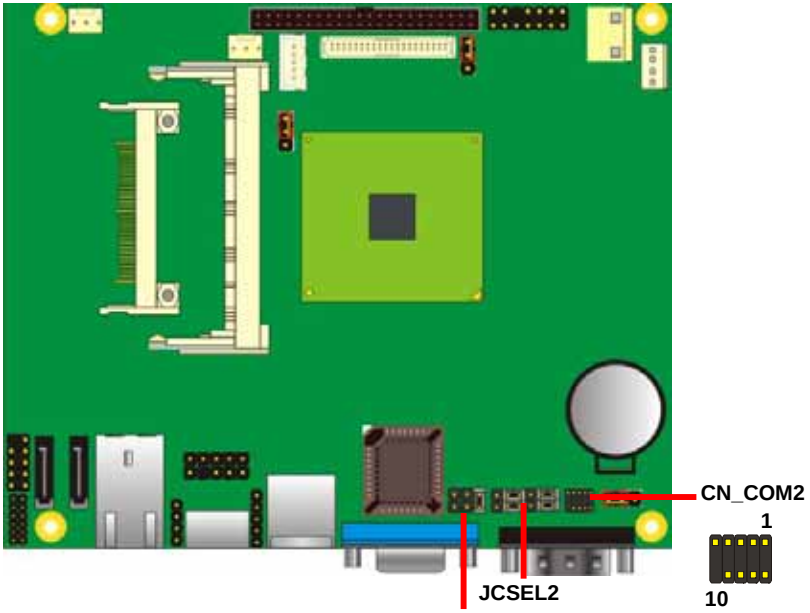
The board provides two RS232 serial ports, with jumper selectable RS422/485 for COM2.

Connector: **CN_COM2**
Type: 10-pin (5 x 2) 1.27mm x 2.54mm-pitch header for COM2



Pin	Description	Pin	Description
1	DCD/422TX-/485-	2	RXD/422TX+/485+
3	TXD/422RX+	4	DTR/422RX-
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N/C

	JCSEL1	JCSEL2
RS-232		
RS-485		
RS-422		


CN_COM2
1
10
JCSEL2
JCSEL1

COM1

2.14 <Power and Fan Connector>

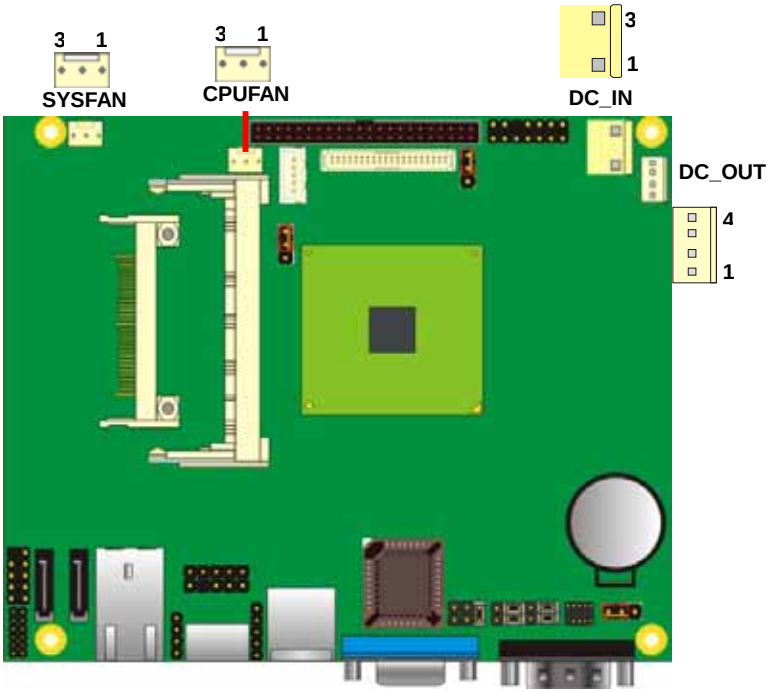
The board requires DC input with 3-pin header, the input voltage range is from 8V to 24V, for the input current, please take a reference of the power consumption report on appendix.

2.15.1 <Power Input>

Connector: **DC_IN**

Pin	Description	Pin	Description	Pin	Description
1	DC_IN	2	NC	3	Ground

Remark: DC input voltage range 8~24V



2.14.2 <Power Output>

Connector: **DC_OUT**

Type: 4-pin connector for +5V/+12V **output**

Pin	Description	Pin	Description	Pin	Description	Pin	Description
1	+12V	2	Ground	3	Ground	4	+5V

2.14.3 <Fan Connector>

Connector: **SYSFAN, CPUFAN**

Type: 3-pin fan wafer connector

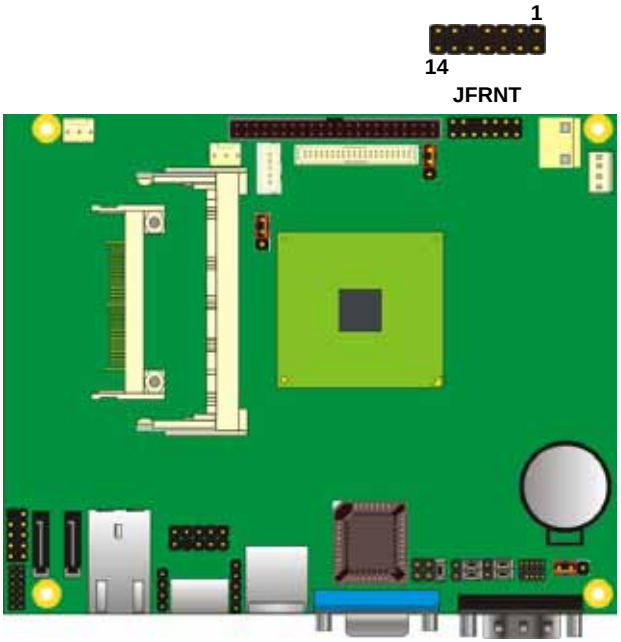
Pin	Description	Pin	Description	Pin	Description
1	Ground	2	+12V	3	Fan Speed detect

2.15 <Indicator and Switch>

The **JFRNT** provides front control panel of the board, such as power button, reset and beeper, etc. Please check well before you connecting the cables on the chassis.

Connector: **JFRNT**
Type: onboard 14-pin (2 x 7) 2.54-pitch header

Function	Signal	PIN		Signal	Function
IDE LED	HDLED+	1	2	PWRLED+	**Power LED**
	HDLED-	3	4	N/C	
Reset	Reset+	5	6	PWRLED-	
	Reset-	7	8	SPK+	**Speaker**
N/C		9	10	N/C	
Power Button	PWRBT+	11	12	N/C	
	PWRBT-	13	14	SPK-	



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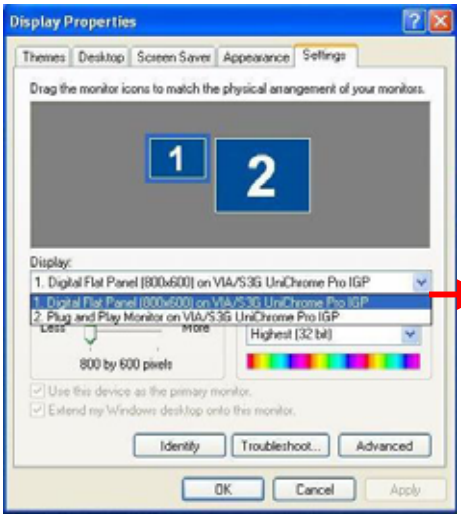
Chapter 3 <System Setup>

3.1 <Display Configuration>

The board provides onboard VGA with DB15 analog display interface, and LVDS LCD interface for digital display, when connecting two display devices, you can enable dual display function with clone mode or extended desktop mode.

Before setup the video setting, please install the VGA driver well.



Two controllers for each display device

There are two options for secondary display device

For more display properties setting, please click "Advanced" button.

Please select S3Display for advanced device setting.

Specified display setup if available

When you set dual display clone mode, you'll see the same screen display on two devices.

When you set the dual display for extended desktop mode, you can have the independent desktop on the second device.

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Chapter 4 <BIOS Setup>

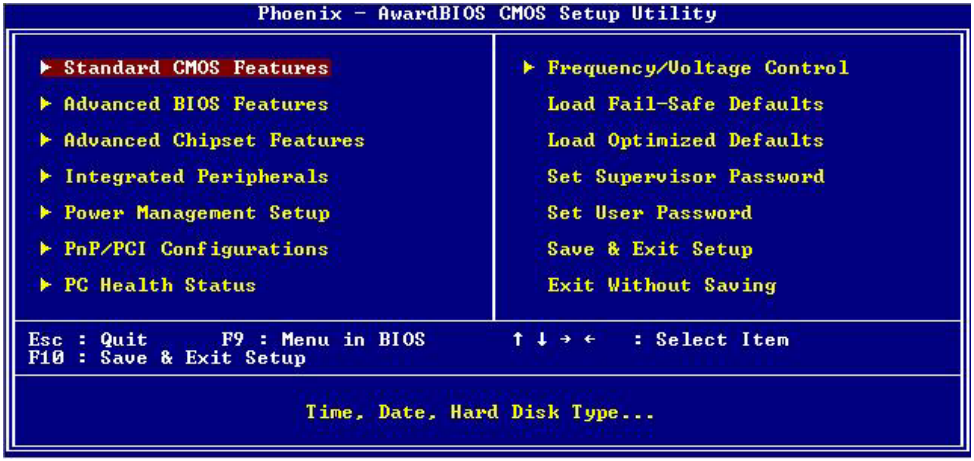
The motherboard uses the Award BIOS for the system configuration. The Award BIOS in the single board computer is a customized version of the industrial standard BIOS for IBM PC AT-compatible computers. It supports Intel x86 and compatible CPU architecture based processors and computers. The BIOS provides critical low-level support for the system central processing, memory and I/O sub-systems.

The BIOS setup program of the single board computer let the customers modify the basic configuration setting. The settings are stored in a dedicated battery-backed memory, NVRAM, retains the information when the power is turned off. If the battery runs out of the power, then the settings of BIOS will come back to the default setting.

The BIOS section of the manual is subject to change without notice and is provided here for reference purpose only. The settings and configurations of the BIOS are current at the time of print, and therefore they may not be exactly the same as that displayed on your screen.

To activate CMOS Setup program, press ＜DEL＞ key immediately after you turn on the system. The following message "Press DEL to enter SETUP" should appear in the lower left hand corner of your screen. When you enter the CMOS Setup Utility, the Main Menu will be displayed as **Figure 4-1**. You can use arrow keys to select your function, press ＜Enter＞ key to accept the selection and enter the sub-menu.

Figure 4-1 CMOS Setup Utility Main Screen


Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PnP/PCI Configurations
PC Health Status
Frequency/Voltage Control
Load Fail-Safe Defaults
Load Optimized Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup
Time, Date, Hard Disk Type...

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Appendix A <I/O Port Pin Assignment>

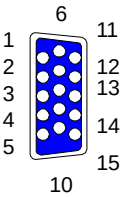
A.1 <IrDA Port>

Connector: **CN_IR**

Type: 5-pin header for SIR Port

Pin	Description
1	Vcc
2	N/C
3	IRRX
4	Ground
5	IRTX

A.2 < CRT Port >



Connector: CRT

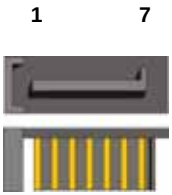
Type: 15-pin D-sub female connector on panel

Pin	Description	Pin	Description	Pin	Description
1	RED	6	Ground	11	N/C
2	GREEN	7	Ground	12	5VCDA
3	BLUE	8	Ground	13	HSYNC
4	N/C	9	LVGA5V	14	VSYNC
5	Ground	10	Ground	15	5VCLK

A.3 <Serial ATA Port>

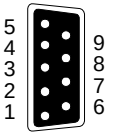
Connector: **SATA1/2**

Type: 7-pin wafer connector



1	2	3	4	5	6	7
GND	RSATA_TXP1	RSATA_TXN1	GND	RSATA_RXN1	RSATA_RXP1	GND

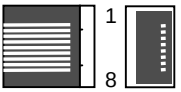
A.4 <Serial Port>



Connector: **COM1**
Type: 9-pin D-sub male connector on rear panel

Pin	Description	Pin	Description
1	DCD	6	DSR
2	SIN	7	RTS
3	SO	8	CTS
4	DTR	9	RI
5	Ground		

A.5 <LAN Port>



Connector: **RJ45**
Type: RJ45 connector with LED on rear panel

Pin	1	2	3	4	5	6	7	8
Description	TX+	TX-	RX+	N/C	N/C	RX-	N/C	N/C

Appendix B <Flash BIOS>

B.1 BIOS Auto Flash Tool

The board is based on Award BIOS and can be updated easily by the BIOS auto flash tool. You can download the tool online at the address below:

http://www.award.com
http://www.commell.com.tw/support/support.htm

File name of the tool is "awdflash.exe", it's the utility that can write the data into the BIOS flash ship and update the BIOS.

B.2 Flash Method

1. Please make a bootable floppy disk.
2. Get the last .bin files you want to update and copy it into the disk.
3. Copy awardflash.exe to the disk.
4. Power on the system and flash the BIOS. (Example: C:/ awardflash XXX.bin)
5. Re-star the system.

Any question about the BIOS re-flash please contact your distributors or visit the web-site at below:

http://www.commell.com.tw/support/support.htm

Appendix C <System Resources>

C1.<I/O Port Address Map>

[00000000 - 0000000F] Direct memory access controller
[00000000 - 00000CF7] PCI bus
[00000000 - 00000CF7] PCI bus
[00000010 - 0000001F] Motherboard resources
[00000020 - 00000021] Programmable interrupt controller
[00000022 - 0000003F] Motherboard resources
[00000040 - 00000043] System timer
[00000044 - 0000005F] Motherboard resources
[00000060 - 00000060] Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
[00000061 - 00000061] System speaker
[00000062 - 00000063] Motherboard resources
[00000064 - 00000064] Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
[00000065 - 0000006F] Motherboard resources
[00000070 - 00000073] System CMOS/real time clock
[00000074 - 0000007F] Motherboard resources
[00000080 - 00000090] Direct memory access controller
[00000091 - 00000093] Motherboard resources
[00000094 - 0000009F] Direct memory access controller
[000000A0 - 000000A1] Programmable interrupt controller
[000000A2 - 000000BF] Motherboard resources
[000000C0 - 000000DF] Direct memory access controller
[000000E0 - 000000EF] Motherboard resources

[000000F0 - 000000FF] Numeric data processor
[00000170 - 00000177] Secondary IDE Channel
[000001F0 - 000001F7] Primary IDE Channel
[00000274 - 00000277] ISAPNP Read Data Port
[00000279 - 00000279] ISAPNP Read Data Port
[00000294 - 00000297] Motherboard resources
[000002F8 - 000002FF] Communications Port (COM2)
[00000376 - 00000376] Secondary IDE Channel
[000003B0 - 000003BB] VIA CPU to AGP Controller
[000003B0 - 000003BB] VIA/S3G UniChrome Pro II IGP
[000003C0 - 000003DF] VIA CPU to AGP Controller
[000003C0 - 000003DF] VIA/S3G UniChrome Pro II IGP
[000003F6 - 000003F6] Primary IDE Channel
[000003F8 - 000003FF] Communications Port (COM1)
[00000400 - 0000047F] Motherboard resources
[000004D0 - 000004D1] Motherboard resources

[00000500 - 0000050F] Motherboard resources
[00000A79 - 00000A79] ISAPNP Read Data Port
[00000D00 - 0000BFFF] PCI bus
[0000C000 - 0000CFFF] PCI bus
[0000D000 - 0000FFFF] PCI bus
[0000DE00 - 0000DEFF] Realtek RTL8169/8110 Family Gigabit Ethernet NIC
[0000E000 - 0000EFFF] VIA CPU to AGP Controller
[0000FC00 - 0000FC1F] VIA Rev 5 or later USB Universal Host Controller
[0000FD00 - 0000FD1F] VIA Rev 5 or later USB Universal Host Controller
[0000FE00 - 0000FE1F] VIA Rev 5 or later USB Universal Host Controller
[0000FF00 - 0000FF0F] VIA Bus Master IDE Controller - 0581

C2.<Memory Address Map>

[00000000 - 0009FFFF] System board
[000A0000 - 000BFFFF] PCI bus
[000A0000 - 000BFFFF] PCI bus
[000A0000 - 000BFFFF] VIA CPU to AGP Controller
[000A0000 - 000BFFFF] VIA/S3G UniChrome Pro II IGP
[000C0000 - 000DFFFF] PCI bus
[000F0000 - 000FFFFF] System board
[00100000 - 3BEDFFFF] System board
[3BEE0000 - 3BEFFFFF] System board
[3BF00000 - 9FEFFFFF] PCI bus
[9FF00000 - 9FFFFFFF] PCI bus
[9FFFC000 - 9FFFFFFF] Microsoft UAA Bus Driver for High Definition Audio
[A0000000 - BFFFFFFF] VIA CPU to AGP Controller
[A0000000 - BFFFFFFF] VIA/S3G UniChrome Pro II IGP
[A0000000 - FEBFFFFF] PCI bus
[D0000000 - D7FFFFFF] VIA CPU to AGP Controller
[DD000000 - DDFFFFFF] VIA/S3G UniChrome Pro II IGP
[DD000000 - DEFFFFFF] VIA CPU to AGP Controller
[DFEFF000 - DFEFF0FF] Realtek RTL8169/8110 Family Gigabit Ethernet NIC
[DFFFF000 - DFFFF0FF] VIA USB Enhanced Host Controller
[E0000000 - EFFFFFFF] Motherboard resources
[F0000000 - F0000FFF] Motherboard resources
[FEC00000 - FEC00FFF] System board
[FEE00000 - FEE00FFF] System board
[FFF80000 - FFFEFFFF] System board
[FFFF0000 - FFFFFFFF] System board

C3.<System IRQ Resources>

(ISA) 0 System timer
(ISA) 1 Standard 101/102-Key or Microsoft Natural PS/2 Keyboarc
(ISA) 3 Communications Port (COM2)
(ISA) 4 Communications Port (COM1)
(ISA) 8 System CMOS/real time clock
(ISA) 9 Microsoft ACPI-Compliant System
(ISA) 12 PS/2 Compatible Mouse
(ISA) 13 Numeric data processor
(ISA) 14 Primary IDE Channel
(ISA) 15 Secondary IDE Channel
(PCI) 16 VIA/S3G UniChrome Pro II IGP
(PCI) 17 Microsoft UAA Bus Driver for High Definition Audio
(PCI) 17 Realtek RTL8169/8110 Family Gigabit Ethernet NIC
(PCI) 20 VIA Rev 5 or later USB Universal Host Controller
(PCI) 21 VIA Rev 5 or later USB Universal Host Controller
(PCI) 22 VIA Rev 5 or later USB Universal Host Controller
(PCI) 23 VIA USB Enhanced Host Controller

Appendix D <Programming GPIO's>

The GPIO'can be programmed with the MSDOS debug program using simple IN/OUT commands.The following lines show an example how to do this.

```
GPIO0…..GPIO7    bit0……bit7
-o 4E 87                    ;enter configuration
-o 4E 87
-o 4E 07
-o 4F 07                    ;enale GPIO function
-o 4E 29
-o 4F A2                    ;enable GPIO configuration
-o 4E F0
-o 4F xx                    ;set GPIO as input/output; set '1' for input,'0'for
output
-o 4E F1
-o 4F xx                    ;if set GPIO's as output,in this register its value can
                            be set

Optional :
-o 4E F2
-o 4F xx                   ; Data inversion register ; '1' inverts the current valus
                            of the bits ,'0' leaves them as they are
-o 4E 30
-o 4F 01                   ; active GPIO's
```

For further information ,please refer to Winbond W83697HG datasheet.

Contact Information

Any advice or comment about our products and service, or anything we can help you please don't hesitate to contact with us. We will do our best to support you for your products, projects and business.

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